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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,711	01/13/2004	Jeffrey L. Milner	EJ-7563	2880

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NEW MARKET SERVICES CORPORATION
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EXAMINER	
LANG, AMY T	

ART UNIT	PAPER NUMBER
3731	

MAIL DATE	DELIVERY MODE
01/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/756,711	MILNER ET AL.	
	Examiner	Art Unit	
	Amy T. Lang	3731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. .
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5 and 7-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-5, and 7-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The indicated allowability of claims 2-4 and 6 is withdrawn in view of the newly discovered reference(s) to Waters (EP 0,434,464 A1). Rejections based on the newly cited reference(s) follow. Additionally, claims 2 and 6 were erroneously indicated as allowable in the previous office actions since Perozzi (US 5,498,355) discloses the limitations presented in claim 2, as discussed below, and Walters (US 5,254,272) discloses the limitations presented in claim 6, see column 3, lines 25-31. Therefore, the finality of the previous action is withdrawn.

2. This action is a Non-Final and replaces the office actions mailed 10/03/2007 and 06/15/2007.

Claims 1, 3-5, and 7-13 are pending. Claims 1, 3, and 5 are currently amended.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 1, 10, and 11-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Perozzi (US 5,498,355) in view of Waters (EP 0,434,464 A1).

Perozzi discloses a lubricating oil composition comprised of hydrocarbyl dithiophosphate salt and hydrocarbyl polysulfide (column 1, lines 6-10; column 2, lines 29-32; column 9, lines 38-41; column 16, lines 27-28). The hydrocarbyl portion is later disclosed as dihydrocarbyl since the formula of the hydrocarbyl dithiophosphate displays two hydrocarbyl moieties (column 9, lines 55-60). The polysulfide is further disclosed as dinonyl trisulfide, which clearly overlaps the instantly claimed alkyl tri-sulfide (column 16, lines 19-21, 27-40). In light of the specification, which discloses on page 17 that di-t-nonyl polysulfide has a CCT value of 731 and that dinonyl trisulfide encompasses di-t-nonyl polysulfide, dinonyl trisulfide would intrinsically also have the same CCT value and therefore a sulfur activity greater than 125 mg.

The base oil of the composition is a mineral oil with a suitable viscosity for lubricating a crankcase (column 19, lines 23-24). The kinematic viscosity of the lubricating composition, as measured during the L-38 test that determines characteristics of crankcase lubricants, is disclosed as 14.05 cSt at 100 degrees Celsius (column 24, lines 44-49; column 25, lines 1-15). Therefore, the base oil would also share this kinematic viscosity, since it is suitable for lubricating a crankcase.

Perozzi further discloses additional additives in the composition including corrosion inhibitors, rust inhibitors, antifoam agents, and dispersants (column 15, lines 16-19; column 16, lines 13-18; column 17, line 25). The dispersant is further disclosed as a boronated ashless Mannich base dispersant (column 17, lines 25-36, 50-58). Mannich base dispersants and succinimide dispersants are well known in the art and can be utilized interchangeably so that it would have been obvious to one of ordinary skill at the time of the invention for Perozzi to utilize a succinimide dispersant.

Perozzi does not disclose (i) the lubricating oil for use as gear oil or (ii) the instantly claimed component D in the lubricating oil composition.

With respect to (i) above, the term "gear oil" is an intended use phrase and is given no patentable weight. The examiner's position is supported by case law, which holds that "where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation." *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) and MPEP 2111.02.

With respect to (ii) above, Perozzi discloses the addition of one or more antiwear agents including amine salts of phosphorus acids (column 16, lines 19-25). Waters discloses a lubricating composition comprising a metal-free anti-wear or load carrying additive (page 2, lines 18-24). This additive is further disclosed as di-hydrocarbyl thiophosphate amine salt, which clearly overlaps the instantly claimed component D (page 2, lines 47-53). The anti-wear or load carrying additive is present in the composition from 0.05 to 3wt%. Waters teaches that the additive is advantageous

when added to a lubricating composition since it is zinc free (page 2, lines 7-9). Lubricating fluids that contain zinc pollute the land when spillage occurs. Therefore, since Perozzi discloses an antiwear agent as an amine salt of phosphorus acid and Waters discloses a specific amine salt of phosphorus acid antiwear agent that is advantageous by not contributing to pollution, it would have been obvious for Perozzi to utilize the antiwear agent disclosed by Waters.

6. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Perozzi (US 5,498,355) in view of Waters (EP 0,434,464 A1)) as applied to claim 1 above, and further in view of Milner (US 6,133,207).

Perozzi in view of Waters, as discussed above and incorporated here by reference, disclose a gear oil lubricant comprised of hydrocarbyl polysulfides, dihydrocarbyl dithiophosphate ester, and a dihydrocarbyl (mono)thiophosphate ester.

The combination of Perozzi and Waters is silent as to whether the dihydrocarbyl (mono)thiophosphate amine salt is free of phosphites.

Milner teaches that the additive combination of hydrocarbyl polysulifdes and dihydrocarbyl (mono)thiophosphate amine salts produces a strong odor (column 1, lines 40-55; column 2, lines 30-44; column 3, lines 16-20). The disclosed examples show that when phosphite was completely converted to the thiophosphate amine salt, no odor was generated (Inventive Example 2, column 4; Inventive Example 4, column 4 through column 5). However, when the phosphite was not completely converted, a strong odor was generated (Comparative Example 1, column 4; Comparative Example 5, column 5).

This strong odor invites many concerns from residential areas near manufacturing plants that might lead to the plant closing down by orders from the EPA (column 2, line 59 through column 3, line 9). Therefore, it would have been obvious for the combination of Perozzi in view of Walters and Sullivan to produce thiophosphate amine salts free of phosphites to eliminate the strong odor.

7. **Claims 8 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Perozzi (US 5,498,355) in view of Waters (EP 0,434,464 A1) as applied to claim 1 above, and further in view of Walters (EP 0,744,456 A2).

Perozzi in view of Waters, as discussed above and incorporated here by reference, disclose a gear oil lubricant comprised of hydrocarbyl polysulfides, dihydrocarbyl dithiophosphate ester, and a dihydrocarbyl (mono)thiophosphate ester.

The combination of Perozzi and Waters is silent as to the production of the dihydrocarbyl (mono)thiophosphate ester.

Walters also discloses a gear oil lubricant comprised of a base oil hydrocarbyl polysulfide, and a dihydrocarbyl (mono)thiophosphate ester. The thiophosphate amine salt is further disclosed as being the product of a dihydrocarbyl hydrogen phosphite, such as dialkyl hydrogen phosphite, sulfur, and one or more amines (page 6, lines 38-57). Since this production method is known to one of ordinary skill in the lubricant art, it would have been obvious for the dihydrocarbyl (mono)thiophosphate ester of Perozzi to also be made from a dibutylhyrogen phosphite, sulfur, and an amine.

8. **Claims 3 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Perozzi (US 5,498,355) in view of Waters (EP 0,434,464 A1) and Walters (EP 0,744,456 A2).

Perozzi discloses a crankcase lubricating oil composition comprised of a hydrocarbyl dithiophosphate salt and a hydrocarbyl polysulfide (column 1, lines 6-10; column 2, lines 29-32; column 9, lines 38-41; column 16, lines 27-28). The hydrocarbyl portion is later disclosed as dihydrocarbyl since the formula of the hydrocarbyl dithiophosphate displays two hydrocarbyl moieties (column 9, lines 55-60). The polysulfide is further disclosed as dinonyl trisulfide (column 16, lines 19-21, 27-40). In light of the specification, which discloses on page 17 that di-t-nonyl polysulfide has a CCT value of 731 and that dinonyl trisulfide encompasses di-t-nonyl polysulfide, dinonyl trisulfide would intrinsically also have the same CCT value and therefore a sulfur activity greater than 125 mg.

The base oil of the composition is a mineral oil with a suitable viscosity for lubricating a crankcase (column 19, lines 23-24). The kinematic viscosity of the lubricating composition, as measured during the L-38 test that determines characteristics of crankcase lubricants, is disclosed as 14.05 cSt at 100 degrees Celsius (column 24, lines 44-49; column 25, lines 1-15). Therefore, the base oil would also share this kinematic viscosity, since it is suitable for lubricating a crankcase.

Perozzi does not disclose the (i) lubricating oil for use as gear oil, (ii) the instantly claimed component D in the lubricating oil composition, or (iii) the hydrocarbyl polysulfide as a di-t-butyl polysulfide.

With respect to (i) above, the term "gear oil" is an intended use phrase and is given no patentable weight. The examiner's position is supported by case law, which holds that "where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation." *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) and MPEP 2111.02.

With respect to (ii) above, Perozzi discloses the addition of one or more antiwear agents including amine salts of phosphorus acids (column 16, lines 19-25). Waters discloses a lubricating composition comprising a metal-free anti-wear or load carrying additive (page 2, lines 18-24). This additive is further disclosed as di-hydrocarbyl thiophosphate amine salt, which clearly overlaps the instantly claimed component D (page 2, lines 47-53). The anti-wear or load carrying additive is present in the composition from 0.05 to 3wt%. Waters teaches that the additive is advantageous when added to a lubricating composition since it is zinc free (page 2, lines 7-9). Lubricating fluids that contain zinc pollute the land when spillage occurs. Therefore, since Perozzi discloses an antiwear agent as an amine salt of phosphorus acid and Waters discloses a specific amine salt of phosphorus acid antiwear agent that is advantageous by not contributing to pollution, it would have been obvious for Perozzi to utilize the antiwear agent disclosed by Waters.

With regard to (iii), Walters (EP '456) discloses a gear oil lubricant that is comprised of dihydrocarbyl polysulfide and a dihydrocarbyl (mono)thiophosphate amine salt (page 2, lines 37-39; page 4, lines 5-11; page 5, lines 23-24; page 6, lines 3-4)).

The dihydrocarbyl polysulfide is specifically disclosed as dinonyl polysulfide or mixtures of di-tert-butyl polysulfide (page 4, lines 13-16). The di-tert-butyl polysulfide is present in the composition from 0.6 to 3.0 wt% (page 15, lines 42-45). Therefore, in view of the evidence given by Walters (EP '456), di-tert-butyl polysulfide and dinonyl polysulfide are interchange and equivalent in a gear oil lubricant. It therefore would have been obvious to one of ordinary skill at the time of the invention for the hydrocarbyl polysulfide or Perozzi to comprise di-tert-butyl polysulfide and to further be present in the lubricant composition from 0.6 to 3.0 wt%.

9. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Perozzi (US 5,498,355) in view of Waters (US EP 0,434,464 A1) and Minn (US 4,282,153).

Perozzi discloses a crankcase lubricating oil composition comprised of a hydrocarbyl dithiophosphate salt and a hydrocarbyl polysulfide (column 1, lines 6-10; column 2, lines 29-32; column 9, lines 38-41; column 16, lines 27-28). The hydrocarbyl portion is later disclosed as dihydrocarbyl since the formula of the hydrocarbyl dithiophosphate displays two hydrocarbyl moieties (column 9, lines 55-60). Perozzi teaches that the dithiophosphate compound is present in the lubricant in an amount such that the lubricant comprises 0.02 to 0.18 wt% of phosphorus, which overlaps the instantly claimed range of Component C absent evidence to the contrary (column 3, lines 19-22). The polysulfide is further disclosed as dinonyl trisulfide (column 16, lines 19-21, 27-40). In light of the specification, which discloses on page 17 that di-t-nonyl polysulfide has a CCT value of 731 and that dinonyl trisulfide encompasses di-t-nonyl

polysulfide, dinonyl trisulfide would intrinsically also have the same CCT value and therefore a sulfur activity greater than 125 mg.

The base oil of the composition is a mineral oil with a suitable viscosity for lubricating a crankcase (column 19, lines 23-24). The kinematic viscosity of the lubricating composition, as measured during the L-38 test that determines characteristics of crankcase lubricants, is disclosed as 14.05 cSt at 100 degrees Celsius (column 24, lines 44-49; column 25, lines 1-15). Therefore, the base oil would also share this kinematic viscosity, since it is suitable for lubricating a crankcase.

Perozzi does not disclose the (i) lubricating oil for use as gear oil, (ii) the instantly claimed component D in the lubricating oil composition, or (ii) the dihydrocarbyl dithiophosphate salt as a mixture of dicyclopentadiene and dialkyldithiophosphoric acid.

With respect to (i) above, the term "gear oil" is an intended use phrase and is given no patentable weight. The examiner's position is supported by case law, which holds that "where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation." *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) and MPEP 2111.02.

With respect to (ii) above, Perozzi discloses the addition of one or more antiwear agents including amine salts of phosphorus acids (column 16, lines 19-25). Waters discloses a lubricating composition comprising a metal-free anti-wear or load carrying additive (page 2, lines 18-24). This additive is further disclosed as di-hydrocarbyl thiophosphate amine salt, which clearly overlaps the instantly claimed component D

(page 2, lines 47-53). The anti-wear or load carrying additive is present in the composition from 0.05 to 3wt%. Waters teaches that the additive is advantageous when added to a lubricating composition since it is zinc free (page 2, lines 7-9). Lubricating fluids that contain zinc pollute the land when spillage occurs. Therefore, since Perozzi discloses an antiwear agent as an amine salt of phosphorus acid and Waters discloses a specific amine salt of phosphorus acid antiwear agent that is advantageous by not contributing to pollution, it would have been obvious for Perozzi to utilize the antiwear agent disclosed by Waters.

With regard to (iii), Minn discloses a method to produce a dihydrocarbyl dithiophosphate involving a reaction mixture of O,O-diethyl dithiophosphoric acid, a dialkyldithiophosphoric acid, and dicyclopentadiene (Example 3, column 3). The reaction produced bis(O,O-diethyl dithiophosphate), which is a dihydrocarbyl dithiophosphate. Since Minn discloses a successful method for producing a dihydrocarbyl dithiophosphate, it would have been obvious for Perozzi to also utilize this method, since the scope of Perozzi includes any suitable method.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy T. Lang whose telephone number is 571-272-9057. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Todd Manahan can be reached on 571-272-4713. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

01/08/2007
AR

Todd E. Manahan
SPE 3731